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| **First Six Weeks** | **Big Idea:** **Earth Systems, Structures and Processes**  **Essential Standard(s):** **5.E.1 - Understand weather patterns and phenomena, making connections to the weather in a particular place and time.**  5.E.1.1 – Compare daily and seasonal changes in weather conditions (including wind speed and direction, precipitation, and temperature)  5. E.1.2 – Predict upcoming weather events from weather data collected through observation and measurements.  5.E.1.3 – Explain how global patterns such as the jet stream and water currents influence local weather in measurable terms such as temperature, wind direction and speed, and precipitation.  5.P.2.1 – Explain how the sun’s energy impacts the processes of the water cycle (including evaporation, transpiration, condensation, precipitation, and runoff) | **Essential Questions**   * Does the amount of water on Earth ever change? * How is water constantly recycled on Earth? * How does the ocean affect weather? * How can clouds help you predict the weather? * How does geography influence weather and climate? * How do different latitudes affect seasonal weather patterns? * Why do global factors such as air and water currents influence weather? * How is weather predicted using basic weather instruments? |
| **Skills**   * Investigate the processes of the water cycle. * Discuss the influences on weather. * Describe and analyze the relationship of cloud formation and weather. * Distinguish the difference between weather and climate. | **Essential Skills/Vocabulary**  weather prevailing winds climate barometer  evaporation anemometer condensation rain gauge precipitation hygrometer  run-off sea breeze cumulus land breeze stratus cirrus  fronts jet stream gulf stream  hurricane el Niño/la Niña transpiration |
| **Resources**  [www.weatherwizkids.com](http://www.weatherwizkids.com); [www.brainpop.com](http://www.brainpop.com); [www.studyjams.com](http://www.studyjams.com)  <http://apps.southeastwater.com>; <http://studyjams.scholastic.com/studyjams/index.htm>  <http://activities.macmillanmh.com/science/ca/grade5/index.html>  The Science Spot – Kid Zone - <http://sciencespot.net/Pages/kidzone.html>  <http://kids.nationalgeographic.com/kids>  <http://teacher.scholastic.com/researchtools/researchstarters/weather/index.htm> | |
| **Second Six Weeks** | **Big Idea:** **5.L.2 -** **Ecosystems**  **Essential Standard(s):** **5.L.2 – Understand the interdependence of plants and animals with their ecosystem.**  5. L.2.1 – Compare the characteristics of several common ecosystems, including estuaries and salt marshes, oceans, lakes and ponds.  5.L.2.2 – Classify the organisms within an ecosystem according to the function they serve: producers, consumers, or decomposers (biotic factors)  5. L.2.3 – Infer the effects that may result from the interconnected relationship of plants and animals to their ecosystem. | **Essential Questions**   * What is the human impact on our environment? * **How do individuals and groups of organisms interact  with each other and their environment?** * Are human interactions beneficial or harmful to the environment? * What is interdependence? * Why is interdependence important? * Are plants essential for life? * What limits the production in ecosystems? * How do nutrients move through the ecosystem? |
| **Skills**   * Identify forces that shape landforms * Investigate the role of the water cycle in the shaping of the land. * Use of models, maps, and aerial photos. * Describe the difference between weathering and erosion. * Discuss human influences on landforms. | **Essential Skills/Vocabulary**  producers consumers decomposers ecosystems  biomes desert tundra taiga  grasslands tropical forest temperate/deciduous evergreen coniferous wetlands estuary carnivore omnivore herbivore food chain food web terrestrial aquatic |
| **Resources**  **Photos/Posters**  **Modeling clay**  **On-line resources**  <http://activities.macmillanmh.com/science/ca/grade5/index.html>  The Science Spot – Kid Zone - <http://sciencespot.net/Pages/kidzone.html>  <http://kids.nationalgeographic.com/kids> | |

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| **Third Six Weeks** | | **Big Idea:** **Forces and Motion**    **Essential Standard(s):** **5.P.1 – Understand force, motion, and the relationship between them.**  5. P.1.1 – Explain how factors such as gravity, friction, and change in mass affect the motion of objects.  5. P.1.2 – Infer the motion of objects in terms of how far they travel in a certain amount of time and the direction in which they travel.  5. P.1.3 – Illustrate the motion of an object using a graph to show a change in position over a period of time.  5. P.1.4 – Predict the effect of a given force or a change in mass on the motion of an object. | **Essential Questions**   * Why do objects move? * How can the laws of motion save my life? * Do ALL machines make life easier? * What is invention? * What are forces of motion? * What is energy and how does it change? * What are simple machines? |
| **Skills**   * Determine the motion of objects. * Evaluate everyday forces of objects. * Determine factors that affect motion * Test a model * Use simple machines to solve problems | **Essential Skills/Vocabulary**  force motion gravity friction inertia momentum balanced/unbalanced acceleration  lever pulley wheel & axle inclined plane  screw mass |
| **Resources**  **Education City**  [www.edheads.com](http://www.edheads.com); [www.brainpop.com](http://www.brainpop.com); [www.studyjams.com](http://www.studyjams.com); [www.neok12.com](http://www.neok12.com); [www.stevespanglerscience.com](http://www.stevespanglerscience.com); [www.science.pppst.com](http://www.science.pppst.com); <http://activities.macmillanmh.com/science/ca/grade5/index.html>  The Science Spot – Kid Zone - <http://sciencespot.net/Pages/kidzone.html>  <http://kids.nationalgeographic.com/kids>  <http://www.learner.org/interactives/weather/watercycle.html> | |
| **Fourth Six Weeks** | **Big Idea:** **Structures and Functions of Living Organisms – (to include human body)**  **Essential Standard(s):** **5.L.1 - Understand how structures and systems of organisms (to include the human body) perform functions necessary for life.**  5.L.1.1 Explain why some organisms are capable of surviving as a single cell while others require many cells that are specialized  5.L.1.2 Compare the major systems of the human body:   * Digestive * Respiratory * Circulatory * Muscular * Skeletal * Cardiovascular   in terms of their functions necessary life. | | **Essential Questions**   * How do living things adapt to the environment? * **How do individuals and groups of organisms interact with each other and their environment?** * Are human interactions beneficial or harmful to the environment? * How does the atmosphere impact life? * What effects do living and non-living things have on the atmosphere? * How does maintaining a healthy atmosphere affect the future of the environment? |
| **Skills**   * Describe and compare different ecosystems. * Role of organisms in an ecosystem * Food Chain, Food Webs, and Energy Pyramid * Interconnected relationships between organism | | **Essential Skills/Vocabulary**  Multi-cellular Circulatory Respiratory  Vessels Trachea Skeletal Muscular Digestive Esophagus  Intestines Nerves |
| **Resources**  [www.brainpop.com](http://www.brainpop.com); [www.studyjams.com](http://www.studyjams.com); <http://science.pppst.com>; [www.neok12.com](http://www.neok12.com); <http://smithsonianeducation.org/>; <http://www.rocksforkids.com/>; <http://www.mcrocks.com/>; <http://aurorafossilmuseum.com/>  <http://activities.macmillanmh.com/science/ca/grade5/index.html>; The Science Spot – Kid Zone - <http://sciencespot.net/Pages/kidzone.html>  <http://kids.nationalgeographic.com/kids>  <http://kidshealth.org/kid/htbw/digestive_system.html> | | |
| **Fifth Six Weeks** | **Big Idea(s):** **Matter: Properties and Change**  **Energy: Conservation and Transfer**  **Essential Standard(s): 5.P.2 - Understand the interactions of matter and energy and the changes that occur.**  **5. P.3 – Explain how the properties of some materials change as a result of heating and cooling.**  *Matter: Properties and Change*  5.P.2.1 – Explain how the sun’s energy impacts the processes of the water cycle (including evaporation, transpiration, condensation, precipitation, and runoff)  5. P.2.2 – Compare the weight of an object to the sum of the weight of its parts before and after and interaction.  5. P.2.3 – Summarize properties of original materials, and the new materials formed, to demonstrate that a change has occurred.  *Energy: Conservation and Transfer*  5. P.3.1 – Explain the effects of the transfer of heat (either by direct contact or at a distance) that occurs between objects at different temperatures. (conduction, convection, radiation)  5. P.3.2 – Explain how heating and cooling affect some materials and how this relates to their purpose and practical applications. | | **Essential Questions**     * What makes up our world? * What causes change in our physical world? * What is matter and how does it behave? * What is energy, where do we find it, how does is change from one form to another, and how does it affect our everyday lives? * Where does energy go? |
| **Skills**  **Matter**   * Observe events. * Plan and conduct simple experiments. * Formulate simple research questions. * Know science information. * Record data. * Explain observations. * Cite examples of how science affects life   **Energy**   * Observe, record, and interpret data. * Use charts, tables, and graphs. * Identify how energy is measured, and read a power meter. * Communicate ways that changes in behaviors can affect energy consumption | | **Essential Skills/Vocabulary**    boiling point freezing point melting point  mixture solution dissolved  electrical energy thermal energy heat energy  density solubility conductor  insulator weight magnetism  mass physical property |
| **Resources**  <http://www.educationworld.com/a_lesson/00-2/lp2124.shtml>  <http://activities.macmillanmh.com/science/ca/grade5/index.html>  The Science Spot – Kid Zone - <http://sciencespot.net/Pages/kidzone.html>  <http://kids.nationalgeographic.com/kids> | | |

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| **Sixth Six Weeks** | **Big Idea:** **Evolution and Genetics**  **Essential Standard(s):** **5.L.3 - Understand why organisms differ from or are similar to their parents based on the characteristics of the organism.**  5. L.3.1 Explain why organisms differ from or are similar to their parents based on the characteristics of the organism.  5. L.3.2 Give examples of likenesses that are inherited and some that are not. | **Essential Questions**   * How connected are all living things? * How do living things change? * How does science impact our life? |
| **Skills**     * Explore the life cycle: development of an organism from birth to growth, reproduction, death * All living things reproduce themselves. * Know that people of different gender and ethnicity have contributed to scientific discoveries and the invention of technological innovations | **Essential Skills/Vocabulary**    genetics genes chromosomes dominant  recessive offspring heredity traits  inherited traits acquired traits dichotomy |
| **Resources**  <http://www.internet4classrooms.com/skills_5th_science.htm#life>  <http://activities.macmillanmh.com/science/ca/grade5/index.html>  The Science Spot – Kid Zone - <http://sciencespot.net/Pages/kidzone.html>  <http://kids.nationalgeographic.com/kids>  <http://samthewlis.hubpages.com/hub/A-Beginners-Guide-to-Genetics-Eye-Color>  <http://sandwalk.blogspot.com/2007/02/genetics-of-eye-color.html>  <http://www.education.com/activity/article/Family_Genes_middle> (activity) | |